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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,057	04/25/2005	Huan nan Ma	E1734-00007	2070
8933 7590 05/26/2009 DUANE MORRIS LLP - Philadelphia IP DEPARTMENT 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103-4196				
EXAMINER KAO, WEI PO ERIC				
ART UNIT 2416		PAPER NUMBER		
MAIL DATE 05/26/2009		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/522,057

Applicant(s)

MA ET AL.

Examiner

WEI-PO KAO

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Appeal Brief

1. In view of the Appeal Brief filed on 02/24/2009, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit 2416.

Response to Arguments

2. Applicant's arguments, see pages 4-10, filed on 02/24/2009, with respect to claims 1 and 2 have been fully considered and are persuasive. The rejections of claims 1 and 2 have been withdrawn.

Claim Rejection - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 4 and 5 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Shiragaki, U.S. Publication No. 2002/0162045 in view of Pierson, Jr., U.S. Patent No. 6633566 (hereinafter Pierson).

Regarding Claim 1, Shiragaki discloses that **a method for protecting high layer service in the multi-layer communication equipment, comprising the following process** (see Abstract): **First, low layer processing module provides high processing module with low layer transmission passage** (see Figures 1 and 2, [0004-0006] [0164] [0175] i.e. such multi-layer communication setup is commonly known as IP over SONET/SDH, according to OSI model,

SONET/SDH is at physical layer, which provide physical connection between network nodes, IP is at the network layer, which provides routing or logical connection; another common multi-layer setup is ATM over SONET/SDH); **Third, after high layer processing module detecting the said module encountering the trouble, it will inform low layer processing module** (see Figure 1 Elements 103 and 104, Figure 3 Elements 203/208, [0025] [0030-0033]); **Fourth, a bypass will be set up after low layer processing module detecting high layer processing module encountering the trouble, so as to isolate the high layer processing module encountering the trouble** (see Figures 3 and 4, [0180] [0182] [0185-0188] i.e. according to [0186], layer A remains in the failed state since it is not yet able to recover the failure; according to [0187], layer B is able to finish up the failure recovery and carry out the main signal after receiving the switch authorization notice; in summary a bypass is set up after layer B detects layer A encountering a failure after receiving notice 203 and 208 to carry out the main signal while layer A remains in a failed state). However, Shiragaki does not teach that **Second, high layer processing module of the multi-layer communication equipment extract and insert high layer service of the said node from low layer transmission passage, avoiding changing the service between upstream node and downstream node after passing high layer processing module of the multi-layer communication equipment**. Pierson from the same field of endeavor teach that **Second, high layer processing module of the multi-layer communication equipment extract and insert high layer service of the said node from low layer transmission passage** (see Abstract, Figures 1 and 5, Column 2 Lines 30-39, Column 3 Lines 44-67, Column 4 Lines 1-40, Column 7 Lines 6-49, Columns 9 and 10 e.g. column 10 lines 14-26; to extract ATM service from the SONET transmission passage, the ATM receiver

receives the data cell unloaded from a SONET frame; to insert ATM service to the SONET transmission passage, the ATM transmitter sends the data cell to the SONET transmitter to be loaded to the SONET frame), **avoiding changing the service between upstream node and downstream node after passing high layer processing module of the multi-layer communication equipment** (see Figure 5 Steps 511 and 523, Column 9 Lines 38-40, Column 10 Lines 34-36 i.e. data being compressed and restored suggests that the data remains unchanged or in another word the service carried by the data remains unchanged). At the time of the invention, it would have been obvious to a person ordinary skill in the art to implement the functionalities of the ATM transmitter/receiver and the SONET transmitter/receiver as well as the data processing mechanism from Pierson's teaching to Shiragaki's inventive A layer and B layer respectively. The motivation would have been that the available bandwidth of the network is efficiently utilized especially in the case of a TDM transferring scheme (see column 3 lines 15-41).

Regarding Claim 3, Shiragaki further discloses that **a method for protecting high layer service in a multi-layer communication equipment, wherein in the third step, when high layer processing module detects the said module encountering trouble, it will inform low layer processing module by soft messages or hardware signals** (see [0232]).

Regarding Claim 4, Shiragaki further discloses that **a method for protecting high layer service in a multi-layer communication equipment, wherein in the fourth step, said situation that**

low layer processing module detect high layer processing module encountering trouble further comprising: low layer processing module judges whether the service signal transmitting by high layer processing module is invalid or not, or low layer processing module detects the hardware signals or soft messages sending by high layer processing module indicating its invalidation (see Figure 3 Element 208, [0186] i.e. once layer B receives the notice 208, it knows that the layer A is not yet recovered from the failure; in another word, layer B detects the messages sending by layer A indicating its invalidation).

Regarding Claim 5, Shiragaki further discloses that **a method for protecting high layer service in a multi-layer communication equipment, wherein said bypass connection is actual connection of the physical lines, or it is logical connection within low layer processing module** (see [0004-0007] i.e. according to OSI model, SONET/SDH is at physical layer).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki, U.S. Publication No. 2002/0162045 and Pierson, Jr., U.S. Patent No. 6633566 (hereinafter Pierson) as applied to claim 1 above, and further in view of Conoscenti et al, U.S. Patent No. 5627836 (hereinafter Conoscenti).

Regarding Claim 2, Shiragaki and Pierson teach that **a method for protecting high layer service in the multi-layer communication equipment, wherein in the second step, a connection is set up for the service passing the high layer processing module of the said**

node, namely for ATM traffic, a cross connection (see Pierson, Figure 6, Column 10 Lines 52-67, Column 11 Lines 1-55 i.e. since ATM is known for its connection oriented characteristic, figure 6 provides a suggestion that an ATM connection is set up between a source/master and a destination/slave in order to carry the ATM traffic). However, Shiragaki and Pierson do not specifically teach that **a transparent virtual path connection is set up for the service passing the high layer processing module of the said node, namely for ATM traffic, a cross connection, which changes neither virtual path identification nor virtual channel identification, will be set up, to avoid changing the service between upstream node and downstream node after passing high layer processing module of the said node.** Conoscenti from the same field of endeavor teaches that **a transparent virtual path connection is set up for the service passing the high layer processing module of the said node, namely for ATM traffic, a cross connection** (see Abstract, Figure 1, Column 1 Lines 39-67, Column 2 Lines 1-7, Column 6 Lines 29-67, Column 7 Lines 1-14 i.e. a virtual path connection is defined by the VPI), **which changes neither virtual path identification nor virtual channel identification, will be set up, to avoid changing the service between upstream node and downstream node after passing high layer processing module of the said node** (see Column 2 Lines 50-67, Column 3, Column 4 Lines 46-62 e.g. column 4 lines 46-62 e.g. accordingly, the VPI/VCI values remain constant throughout the network). At the time of the invention, it would have been obvious to a person ordinary skill in the art to implement the VPI/VCI administration mechanism to Shiragaki and Pierson's combined teaching. The motivation would have been that the VPI/VCI values can be utilized to administrate the network and perform maintenance related functions (see column 3 lines 3-6).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Note: the action is made final basing on the amended claims field on 02/27/2008.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Referring to the PTO Form 892, references are cited to show similar multi-layer communication system.

10. Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI-PO KAO whose telephone number is (571)270-3128. The examiner can normally be reached on Monday through Friday, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit
2416

/Wei-po Kao/

Examiner, Art Unit 2416